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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,446	11/08/2001	Wolfgang Schneider	VAW-5	5083

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PATENT DEPARTMENT  
1585 BROADWAY  
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EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

12

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/986,446	<b>Applicant(s)</b> SCHNEIDER ET AL.	
	<b>Examiner</b> Krishnan S Menon	<b>Art Unit</b> 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/5/03 .
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

Claims 12-24 are pending.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 12, 13, 19-21, 24 and 22(12,13,19-21) {Claims 22 as it depends from claims 12, 13, and 19-21} and 23 (12,13,19-21) are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gesing et al (US 4,790,873).

Gesing teaches a device for filtering and adding grain refining material to metal melt comprising a first filter (19,21), a grain refining material feed downstream of the first filter (20,22,23) and a second filter downstream of the first filter (24) as in claim 12 (see fig 7-9, col 8 lines 5-63)

First filter can be a cake filter as in claim 13 (see 19-fig 7 and 8). Second filter is of a porous filter medium as in claim 19, which is a deep bed filter as in claim 20, and is loosely filled as in claim 21 (see fig 7-9).

Gesing teaches electrically heated filter as in claims 22(12,13, 19-21) and 23 (12,13, 19-21) (col 7 lines 7-10).

Gesing teaches a method of filtering, by filtering through a first filter, adding a grain refiner and then filtering through a second filter as in claim 24 (see col 8 lines 5-63)

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 14-17, 22 (14-17) and 23 (14-17) are rejected under 35 U.S.C. 103(a) as being unpatentable over Gesing et al (US 4,790,870) in view of Dore (US 4,113,241).

Gesing teaches all the limitations of claim 12. Claims 14-17 add further limitations of first filter being a ceramic foam plate, plate thickness and that it is being sintered. Dore teaches a sintered ceramic foam filter plate for metal melt filtration (abstract, col 6 lines 10-20). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Dore in the teaching of Gesing for more efficient filtration (Dore col 6 lines 21-34).

Gesing in view of Dore is not specific on the thicknesses of the filter elements as in instant claims 15 and 16. However, it would be obvious to one of ordinary skill in the art at the time of invention to provide sufficient thickness to have enough strength without compromising on pressure drop as taught by Guthrie (col 6 line 61 – col 7 line 9). [Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Aller, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1955)].

Gesing teaches electrically heated filter as in claims 22(14-17) and 23 (14-17) (col 7 lines 7-10).

2. Claims 18, 22 (18) and 23 (18) are rejected under 35 U.S.C. 103(a) as being unpatentable over Gesing et al (US 4,790,870) in view of Walker (US4,834,876).

Gesing teaches all the elements of claim 12 as above and teaches electrically heated filter (col 7 lines 7-10) as in claims 22 (18) and 23 (18), but does not teach a CVD deposited material on the filters as in instant claim 18. Walker (876) teaches heated filter elements for metal melt filtration, with CVD metal deposition for resistance heating of the element (col 2 lines 12-15). It would be obvious to one of ordinary skill in the art at the time of invention to use the teachings of Walker (876) to configure the filter elements to be heated for the purpose of heating the filters as taught by Gesing.

### *Response to Arguments*

Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan Menon  
Patent Examiner  
June 23, 2003

  
W. L. WALKER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700